



ATTORNEY'S DOCKET NO: M0953/7007 (RMA)

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mark J. Khesin  
Serial No: 09/924,131  
Filed: August 6, 2001  
For: COMBUSTION DIAGNOSTICS METHOD AND SYSTEM

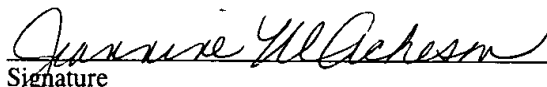
Examiner: Unknown  
Art Unit: 2182

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**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to Commissioner for Patents, Washington, D.C. 20231, on the 29<sup>th</sup> day of November, 2001.

  
Signature

Commissioner for Patents  
Washington, D.C. 20231

**STATEMENT FILED PURSUANT TO THE DUTY OF  
DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98**

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

**Compliance with 37 C.F.R. §1.97**

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case.

No fee or certification is required.

**Information Cited**

The Applicant hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

The Applicant hereby makes the following additional information of record in the above-identified application.

The above-identified U.S. application claims priority to application Serial No. 09/097,959. If the Examiner has not had the benefit of review of the file history of application Serial No. 09/097,959, then he/she is asked to contact the undersigned, who will provide a copy of same.

The applicant would like to bring to the Examiner's attention the following co-pending applications (copies enclosed) that may contain subject matter related to this application:

<u>Serial No.</u>	<u>Filing Date</u>	<u>Title of Application</u>
09/412,471	October 5, 1999	Combustion Diagnostics Using a Gas Sensor
09/413,004	October 5, 1999	Gas-Sensing Probe for Use in a Combustor

Remarks

Documents cited on the attached form PTO-1449 (modified) are enclosed unless otherwise indicated on the attached form PTO-1449 (modified). It is respectfully requested that:

The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;

The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;

The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted,  
*Mark J. Khesin, Applicant*

By: 

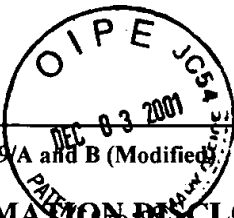
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Boston, MA 02210  
Telephone (617) 720-3500

Docket No. M0953/7007 (RMA)

Dated: November 29, 2001

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<b>FORM PTO-1449/A and B (Modified)</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		APPLICATION NO.: 09/924,131	ATTY. DOCKET NO M0953/7007(RMA)
		FILING DATE: August 6, 2001	
		APPLICANT: Mark J. Khesin	
		GROUP ART UNIT: 2182	EXAMINER: Unknown
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#### U.S. PATENT DOCUMENTS

Examiner's Initials#	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YY
		Number	Kind Code		
	A1	3,689,773		Wheeler	09/05/72
	A2	3,768,259		Carnahan	10/30/73
	A3	3,852,729		Cade	12/03/74
	A4	3,903,418		Horn	09/02/75
	A5	3,936,648*		Cormault, et al	02/03/76
	A6	3,940,327		Wagner, et al.	02/24/76
	A7	4,039,844*		MacDonald	08/02/77
	A8	4,101,403		Kita, et al.	07/18/78
	A9	4,253,404*		Leonard	03/03/81
	A10	4,260,363*		Cratin, Jr.	04/07/81
	A11	4,296,727*		Bryan	10/27/81
	A12	4,339,318		Tanaka, et al.	07/13/82
	A13	4,370,557*		Axmark, et al	01/25/83
	A14	4,412,809		Yamaguchi, et al.	11/01/83
	A15	4,435,149		Astheimer	03/06/84
	A16	4,436,505		Yamaguchi, et al.	03/13/84
	A17	4,477,245		Glachino, et al.	10/16/84
	A18	4,526,001		Burns, et al.	07/02/85
	A19	4,562,529*		Drummond	12/31/85
	A20	4,606,719		Mori, et al.	08/19/86
	A21	4,639,717*		De Meirsman	01/27/87
	A22	4,691,196		Kern, et al.	09/01/87
	A23	4,709,155*		Yamaguchi, et al	11/24/87
	A24	4,782,232		Bernstein, et al.	11/01/88
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	A26	4,828,673		Maeda	05/09/89
	A27	4,866,420*		Meyer, Jr.	09/12/89
	A28	4,885,573*		Fry, et al	12/05/89
	A29	4,901,247*		Wakimoto, et al	02/13/90
	A30	4,913,647		Bonne, et al.	04/03/90
EXAMINER				DATE CONSIDERED	

#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

\*a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. 09/097,959, filed June 16, 1998, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).



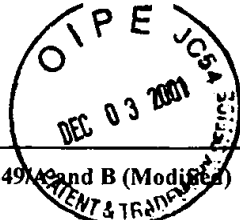
<b>FORM PTO-1449/A and B (Modified)</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				APPLICATION NO.: 09/924,131		ATTY. DOCKET NO M0953/7007(RMA)	
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	A31	4,923,117*		Adams, et al	05/08/90
	A32	4,927,350		Zabielski	05/22/90
	A33	4,977,376		Schiek, et al.	12/11/90
	A34	4,987,772		Lacey, et al.	01/29/91
	A35	5,037,291		Clark	08/06/91
	A36	5,073,769*		Kompelien	12/17/91
	A37	5,076,780*		Erdman	12/31/91
	A38	5,077,550*		Cormier	12/31/91
	A39	5,107,128*		Davall, et al	04/21/92
	A40	5,112,217		Ripka, et al.	05/12/92
	A41	5,175,505		Magenau, et al.	12/29/92
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	A46	5,257,496*		Brown, et al	11/02/93
	A47	5,265,036		Suarez-Gonzalez, et al.	11/23/93
	A48	5,280,756*		Labbe	01/25/94
	A49	5,296,112		Seeger et al.	03/22/94
	A50	5,332,386*		Hosome, et al	07/26/94
	A51	5,496,450*		Blumenthal, et al	03/05/96
	A52	5,501,159*		Stevens, et al	03/26/96
	A53	5,533,329		Ohyama, et al.	07/09/96
	A54	5,544,478		Shu, et al.	08/13/96
	A55	5,547,369		Sohma, et al.	08/20/96
	A56	5,599,179*		Lindner, et al	02/04/97
	A57	5,632,614		Consadori, et al.	05/27/97
	A58	5,785,512		Cormier	07/28/98
	A59	5,796,342*		Panov	08/18/98
	A60	5,797,736		Menguc, et al.	08/25/98
	A61	5,798,946*		Khesin	08/25/98
	A62	5,813,767		Calabro, et al.	09/29/98
	A63	5,827,415		Gür, et al.	10/27/98
	A64	5,857,321		Rajamani, et al.	01/12/99
	A65	5,961,314		Myhre, et al.	10/05/99
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<b>FORM PTO-1449 (Rev. 12-2000) and B (Modified)</b> <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				APPLICATION NO.: 09/924,131		ATTY. DOCKET NO M0953/7007(RMA)	
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	A67	5,993,194		Lemelson, et al.		11/30/99	
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	A69	6,071,114		Cusack, et al.		06/06/00	
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	A72	6,277,268	B1	Khesin, et al.		08/21/01	

#### FOREIGN PATENT DOCUMENTS

Examiner's Initials#	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/Country	Number	Kind Code			
	B1		EP 0 476 601 A*		Cormier	03/25/92	
	B2		EP 0 581 451 A*		Hosome, et al.	02/02/94	
	B3		EP 0 766 080 A1 ✓		Calabro, et al.	04/02/97	
	B4		GB 2162320A ✓		Leitner	0129//86	
	B5		JP 63169422 A ✓			07/13/98	
	B6		JP 200018545 A ✓			1/2000	
	B7		JP 200088232 A ✓			3/2000	
	B8		PCT WO90/09552		Rennert	8/1990	
	B9		PCT WO97/24560*		Khesin	07/10/97	

#### OTHER ART — NON PATENT LITERATURE DOCUMENTS

Examiner's Initials#	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)	
	C1	"Algorithms convert chaos into efficiency", text as printed in Personal Engineering and Instrumentation, April, 1998.*		
	C2	Center on Airborne Organics, 1997 Annual Report, National Center for Environmental Research, Office of R&D, U.S. Environmental Protection Agency.	✓	
	C3	Forney Corporation, "OptiFlame Burner Diagnostic System", 1996.*		
	C4	Gittins, et al., "Measurements of Major Species in a High Pressure Gas Turbine Combustion Simulator Using Raman Scattering," AIAA 2000-0772, January 2000.	✓	
	C5	Keppeler, "Full Scale Carbon Burn-Out and Ammonia Removal Experience," USDOE, 2000 Conf. on Unburned Carbon in Fly Ash, May 2000.	✓	
	C6	Khesin, M.J., et al., "Application of a New Burner Diagnostic System for Coal-Fired Utility Boilers", presented to the Joint ISA/EPRI Symposium, Knoxville, TN, June 1997.*		
	C7	Khesin, M.J., et al., "Application of a Flame Spectra Analyzer for Burner Balancing", Sixth International Joint ISA POWID/EPRI Controls and Instrumentation Conference, Baltimore, June, 1996.*		
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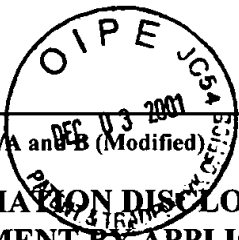


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	C8	Khesin, M.J., et al., "Combustion Control - New Environmental Dimension," Proceedings of the American Power Conference; pps. 1262-1266; (Date unknown).		
	C9	Khesin, M.J., et al., "MPV Combustion Diagnostic and Optimization Systems," The Mega Symposium, EPRI-DOE-EPA Combined Utility Air Pollutant Control Symposium; August 1999.		
	C10	Khesin, M.J., "Combustion Diagnostics based on Frequency Spectra Analysis", American Flame Research Committee, Monterey, CA, October 1995.*		
	C11	Khesin, M.J., et al., "Continuous On-line Monitoring of Unburned Carbon Case Study on a 650 MW Coal-Fired Unit," FETC Publications, 1998 USDOE Conf. on Unburned Carbon on Utility Fly Ash, May 1998.		
	C12	Khesin, M.J., et al., "Demonstration of New Flame Monitoring System at a Pilot-Scale Gas-Fired Combustion Test Facility", American Flame Research Committee, International Symposium, Baltimore, MD, September 1996*		
	C13	Khesin, M.J., et al., "Demonstration of New Frequency-Based Flame Monitoring System", American Power Conference, Chicago, April, 1996.*		
	C14	Khesin, M.J., et al., "Demonstration Tests of New Burner Diagnostic System on a 650 MW Coal-Fired Utility Boiler", presented at the American Power Conference, Chicago, April, 1997.*		
	C15	Khesin, M.J., et al., "Fluctuations in the Oxidising Potential of Combustion Products as an Indicator of Losses Due to Unburnt Gases," pps. 40-42; 1978.		
	C16	Khesin, M.J., et al., "Smart Flame Scanners - Myth or Reality?", American Power Conference, Chicago, April, 1995.*		
	C17	Mihalcea, et al., "Advanced Diode Laser Absorption Sensor for In-Situ Combustion Measurements of CO <sub>2</sub> , H <sub>2</sub> O, and Gas Temperature," 27 <sup>th</sup> Sym. (Int.) on Combustion, July 1998.		
	C18	MK Engineering, Inc., "System may boost combustion efficiency", Industry Watch, September, 1996.*		
	C19	MK Engineering, Inc., "Combustion Diagnostic System", illustrated brochure, copyright date of November, 1997, but first publicly distributed in January 1998.*		
	C20	MK Engineering, Inc., "Application of MPV-I Combustion Diagnostic System - A Case Study, Application on a 650 MW Coal-Fired Unit", January 1998.*		
	C21	MK Engineering, Inc., "MPV-I Combustion Diagnostic System for Tangential Boilers", January, 1998.*		
	C22	MK Engineering, Inc., "MPV-I Combustion Diagnostic System", distributed February, 1998.*		
	C23	MK Engineering, Inc.; Combustion Diagnostic System/CO Monitor "Miracle Sensor," distributed January 1998.		
	C24	Savtavicca, et al., "Combustion Instability Studies for Application to Land-Based Gas Turbine Combustors," October 1997, Conf. Proceedings, Advanced Turbine Systems Annual Program Review Meeting, Poster 7.		
	C25	Santavicca, "Combustion Sensors for Measuring the Primary Zone Equivalence Ration," October 1997, Conf. Proceedings, Advanced Turbine Systems Annual Program Review Meeting, Poster 9.		
EXAMINER			DATE CONSIDERED	

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	C26	Sayre, et al., "Scaling Characteristics of the Aerodynamics and Low NOx Properties of Industrial Natural Gas Burners. Scaling 400 Study-Part IV: The 300 kW BERL Test Results," November 1994, GRI-94/0186.		
	C27	Schadow, et al., "Advanced Compact Incinerator Technology Demonstration," Code 474320D, Research & Technology Division, Naval Air Warfare Center Weapons Division, January 1998 last modified.		
	C28	Sivanthu, et al., "Miniature Infrared Emission Based Temperature Sensor and Light-Off Detector," October 1997, Conf. Proceedings, Advanced Turbine Systems Annual Program Review Meeting, Poster 5.		

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